CERTIFICATION OF TRANSLATION

I, the undersigned, hereby declare that:

I am knowledgeable in both English and Japanese languages, and that I believe that the Japanese translation attached to this certification is a true and accurate translation of the "Embodiments of the Invention" section of Exhibit A attached to the 131 Declaration submitted on December 12, 2008.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Date: August 18, 2009

Name: Tadashi Horie

Signature:

No. 5

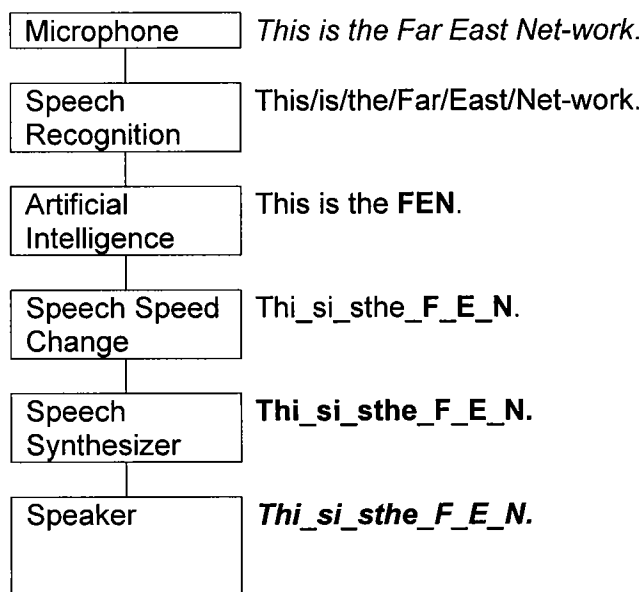[Embodiments of the Invention]

...

[Objects]

The object is to improve not only the ability to recognize the sounds of words in a conversation but also the ability to understand the conversation by means of speech and language processing and artificial intelligence functions.

[Means for Solution]

The means for solution includes the means for recognizing speeches by means of auto-focusing processing, the means for prosodic process by means of speech and language processing and artificial intelligence, and the means for processing frequencies, the means for processing word sounds and syllables, and a microphone for processing own speeches.

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[Selected Figure] Fig. 1

Microphone	*This is the Far East Net-work.*
Speech Recognition	This/is/the/Far/East/Net-work.
Artificial Intelligence	This is the **FEN**.
Speech Speed Change	Thi_si_sthe_F_E_N.
Speech Synthesizer	**Thi_si_sthe_F_E_N.**
Speaker	***Thi_si_sthe_F_E_N.***

A Microphone

1) A microphone is placed near the mouth of a wearer to make sure that the wearer understands his or her own speeches.

B Speech Recognition

1) continuous speech recognition

2) speech recognition for an unidentified speaker (A neural network adapted for a speaker)

3) recognition of speech tempo information

4) the software for speech recognition is a combination of technologies developed in countries where different languages are spoken.

*It remains to be seen which technologies should be combined. The technology from ATR would be best in the Japanese language. For the English language, although the technologies are available from Carnegie Mellon University and others, I have not studied which one is the best.

C Artificial Intelligence

1) emphasis on speech tempo information

1-1) emphasis on an intonation, an accent and a base frequency (pitch) pattern

1-2) emphasis on the tempo information discussed in the speech recognition, especially on an accent and a synchronization of sound elements

* When the term "Kame" (tortoise) is inputted, after the sound "Kame" is recognized, there is a time lag before the meaning of "Kame" is recognized if an accent is emphasized, such as "Kame." However, by analyzing the sound elements, when "Ka" is accentuated, "Ka" is first emphasized, and "me" is then recognized to understand the meaning of "Kame." It remains to be seen how to reduce this technology to practice.

2) sentence and phrase conversion

2-1) conversion to a speech or speech syllable with a simple content

2-2) by recognizing a speaker, understanding the relationship between the speaker and the listener and shortening the content of the speech and the words

D   Speech Speed Change

1) making constant intervals between vowels in sound elements and extending the intervals according to the condition of a wearer

F   Speech Synthesis

1) shifting frequencies to within the hearable range of a wearer

2) synthesizing a speech by a voice similar to that of the speaker

G   Speaker

1) putting a sound from a speaker through a conduit of a spiral shape

2) combining knowledge of conventional headphones

**2) itself may not be patentable. But a combination with a hearing aid may be patentable. The conduit of a spiral shape applied to a hearing aid may be patentable.